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1 [Recency-based TLB preloading](#)


June 2000 ISCA '00: Proceedings of the 27th annual international symposium on Computer architecture

Publisher: ACM

 Full text available:  (651.05 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)
**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 57, Downloads (Overall): 455, Citation Count: 13

Caching and other latency tolerating techniques have been quite successful in maintaining high memory system performance for general purpose processors. However, TLB misses have become a serious bottleneck as working sets are growing beyond the ...

Also published in:

May 2000 SIGARCH Computer Architecture News Volume 28 Issue 2

2 [GPGPU: general purpose computation on graphics hardware](#)


August 2004 SIGGRAPH '04: SIGGRAPH 2004 Course Notes

 Publisher: ACM 

 Full text available:  (63.03 KB)

 Additional Information: [full citation](#), [abstract](#), [cited by](#)
**Bibliometrics:** Downloads (6 Weeks): 105, Downloads (12 Months): 1350, Downloads (Overall): 7215, Citation Count: 19

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex ...

3 [A parallel embedded-processor architecture for ATM reassembly](#)


February 1999 IEEE/ ACM Transactions on Networking (TON) . Volume 7 Issue 1

Publisher: IEEE Press

 Full text available:  (331.21 KB)

 Additional Information: [full citation](#), [references](#), [cited by](#), [index terms](#)
**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 18, Downloads (Overall): 349, Citation Count: 2

**Keywords:** ATM, embedded systems, medium access control, segmentation and reassembly

#### 4 System-level power optimization: techniques and tools

 Luca Benini, Giovanni de Micheli

April **Transactions on Design Automation of Electronic Systems (TODAES)** , Volume 5 Issue 2  
2000


**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (385.22 KB) **Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 37, Downloads (12 Months): 565, Downloads (Overall): 4985, Citation Count: 82

This tutorial surveys design methods for energy-efficient system-level design. We consider electronic systems consisting of a hardware platform and software layers. We consider the three major constituents of hardware that consume energy, namely computation, ...

#### 5 Tree logical classes for efficient evaluation of XQuery

 Stelios Paparizos, Yueling Wu, Laks V. S. Lakshmanan, H. V. Jagadish

June **SIGMOD '04: Proceedings of the 2004 ACM SIGMOD international conference on Management of data**  
2004


**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (193.76 KB) **Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 32, Downloads (Overall): 952, Citation Count: 17

XML is widely praised for its flexibility in allowing repeated and missing sub-elements. However, this flexibility makes it challenging to develop a bulk algebra, which typically manipulates sets of objects with identical structure. A set of XML elements, ...

#### 6 Formal verification in hardware design: a survey

 Christoph Kern, Mark R. Greenstreet

April **Transactions on Design Automation of Electronic Systems (TODAES)** , Volume 4 Issue 2  
1999

**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (411.53 KB) **Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 38, Downloads (12 Months): 283, Downloads (Overall): 2657, Citation Count: 20

In recent years, formal methods have emerged as an alternative approach to ensuring the quality and correctness of hardware designs, overcoming some of the limitations of traditional validation techniques such as simulation and testing. There are two ...

**Keywords:** case studies, formal methods, formal verification, hardware verification, language containment, model checking, survey, theorem proving

#### 7 Parallel programming models for a multi-processor SoC platform applied to high-speed traffic management

 Pierre G. Paulin, Chuck Pilkington, Michel Langevin, Essaid Bensoudane, Gabriela Niculescu

September **CODES+ ISSS '04: Proceedings of the 2nd IEEE/ACM/IFIP international conference on Hardware/software codesign and system synthesis**  
2004

**Publisher:** ACM

Full text available:  [Pdf](#) (238.83 KB) **Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 93, Downloads (Overall): 931, Citation Count: 11

In this paper, we describe the MultiFlex multi-processor SoC programming environment, with focus on two programming models: a distributed system object component (DSOC) message passing model, and a symmetrical multi-processing (SMP) model using shared ...

**Keywords:** embedded software, multi-processor systems, system-on-chip

8 [Fast detection of communication patterns in distributed executions](#)

[Thomas Kung, Michiel F. H. Seuren](#)

November 1997 **CASCON '97**: Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research

**Publisher:** IBM Press


Full text available:  [PDF](#) (4.21 MB)

**Additional Information:** [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 26, Downloads (12 Months): 268, Downloads (Overall): 5943, Citation Count: 0


Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event ...

9 [The elements of nature: interactive and realistic techniques](#)

 [Oliver Deussen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf](#)

August 2004 **SIGGRAPH '04**: SIGGRAPH 2004 Course Notes

**Publisher:** ACM 


Full text available:  [PDF](#) (17.65 MB)

**Additional Information:** [full citation](#), [abstract](#), [cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 111, Downloads (12 Months): 1332, Downloads (Overall): 7521, Citation Count: 2


This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives ...

10 [Creating and preserving locality of java applications at allocation and garbage collection times](#)

 [Yefim Shuf, Manish Gupta, Hubertus Franke, Andrew Appel, Jaswinder Pal Singh](#)

November 2002 **OOPSLA '02**: Proceedings of the 17th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications

**Publisher:** ACM 

Full text available:  [PDF](#) (180.20 KB)

**Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 35, Downloads (Overall): 651, Citation Count: 15

The growing gap between processor and memory speeds is motivating the need for optimization strategies that improve data locality. A major challenge is to devise techniques suitable for pointer-intensive applications. This paper presents two techniques ...


**Keywords:** JVM, Java, garbage collection, heap traversal, locality, locality based graph traversal, memory allocation, memory management, object co-allocation, object placement, prolific types, run-time systems

Also published in:

November 2002 **SIGPLAN Notices Volume 37 Issue 11**

11 [ACM SIGPLAN Notices: Volume 39 issue 5](#)

May 2004 **SIGPLAN Notices**

 **Publisher:** ACM

**Additional Information:** [full citation](#)


**Bibliometrics:** Downloads (6 Weeks): n/a, Downloads (12 Months): n/a, Downloads (Overall): n/a, Citation Count: 0

## 12 [Real-time volume graphics](#)

 [Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf](#)

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**

**Publisher:** ACM  [Request Permissions](#)


Full text available:  Pdf (7.63 MB)

**Additional Information:** [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 44, Downloads (12 Months): 570, Downloads (Overall): 3028, Citation Count: 4


The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques ...

## 13 [Implementing an untrusted operating system on trusted hardware](#)

 [David Lie, Chandramohan A. Thekkath, Mark Horowitz](#)

December 2003 **SOSP '03: Proceedings of the nineteenth ACM symposium on Operating systems principles**

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (280.87 KB)

**Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 115, Downloads (Overall): 1611, Citation Count: 23

Recently, there has been considerable interest in providing "trusted computing platforms" using hardware --- ~ TCPA and Palladium being the most publicly visible examples. In this paper we discuss our experience with building such a platform using a traditional ...

**Keywords:** XOM, XOMOS, untrusted operating systems

Also published in:


December 2003 **SIGOPS Operating Systems Review** Volume 37 Issue 5

## 14 [Energy-aware design of embedded memories: A survey of technologies, architectures, and optimization techniques](#)

 [Luca Benini, Alberto Macii, Massimo Poncino](#)

February 2003 **Transactions on Embedded Computing Systems (TECS)** , Volume 2 Issue 1

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (288.44 KB)

**Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 148, Downloads (Overall): 2419, Citation Count: 10

Embedded systems are often designed under stringent energy consumption budgets, to limit heat generation and battery size. Since memory systems consume a significant amount of energy to store and to forward data, it is then imperative to balance power ...

**Keywords:** Embedded systems, embedded memories, integration, memories, nonvolatile, system-on-a-chip, volatile

## 15 [A survey of processors with explicit multithreading](#)

 [Theo Ungerer, Borut Robic, Jurii Sitc](#)

March 2003 **Computing Surveys (CSUR)** , Volume 35 Issue 1

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (920.16 KB)

**Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 32, Downloads (12 Months): 456, Downloads (Overall): 5524, Citation Count: 24

Hardware multithreading is becoming a generally applied technique in the next generation of microprocessors. Several multithreaded processors are announced by industry or already into production in the areas of high-performance microprocessors, media, ...


**Keywords:** Blocked multithreading, interleaved multithreading, simultaneous multithreading

16 [Crowd and group animation](#)

 [Daniel Thalmann](#), [Christophe Hery](#), [Seth Lippman](#), [Hiromi Ono](#), [Stephen Regeles](#), [Douglas Sulten](#)

August **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**  
2004

**Publisher:** ACM  [Request Permissions](#)

Full text available:  [PDF](#) (20.19 MB)

**Additional Information:** [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 44, Downloads (12 Months): 518, Downloads (Overall): 3435, Citation Count: 1


A continuous challenge for special effects in movies is the production of realistic virtual crowds, in terms of rendering and behavior. This course will present state-of-the-art techniques and methods. The course will explain in details the different ...

17 [A DISE implementation of dynamic code decompression](#)

 [Marc L. Coriass](#), [E. Christopher Lewis](#), [Amir Reih](#)

July **LCTES '03: Proceedings of the 2003 ACM SIGPLAN conference on Language, compiler, and tool for 2003 embedded systems**

**Publisher:** ACM  [Request Permissions](#)

Full text available:  [PDF](#) (291.52 KB)

**Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 11, Downloads (Overall): 225, Citation Count: 11

Code compression coupled with dynamic decompression is an important technique for both embedded and general-purpose microprocessors. *Post-fetch decompression*, in which decompression is performed after the compressed instructions have been fetched, ...





**Keywords:** DISE, code compression, code decompression

Also published in:

July 2003 **SIGPLAN Notices** Volume 38 Issue 7

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